

In the Specification

Please replace the paragraph found on page 23, line 27 through to page 24, line 16 of the specification with the following paragraph:

DABCYL is a preferred quencher. Although the term quenching is used here, instead of a quencher there may be a second dye attached and the first and second dyes may interact as FRET partners as donors and acceptors or electron transfer donors and acceptors (the acceptor could also be nucleotide base such as Guanine in this case)[[.]]. WO03/089670 describes Internally Quenched Nucleotide fluorescent reporters (IQNs) which have recently been introduced by Lawler Scientific/Glen Research for incorporation into real-time PCR, microarray technologies and diagnostics. In the present invention it is proposed that these reagents can be adapted for use in sequencing reactions.[[.]] Fluorescein-dUTP-dabsyl can be incorporated well by reverse transcriptases. This fluorophore quencher pair is well described in the literature (Marras *et al* 2002) Fluorescence emission is >98% quenched. Certain IQNs may be incorporated by DNA polymerases and thermostable varieties thereof. One IQN which can be used by thermostable polymerases is Pyrrolo-dCTP-dabcyl. Pyrrolo-Pyrrolo is an intrinsicly intrinsically fluorescent nucleobase. US2004014096 also describes dual labeled nucleotides with quencher and fluorophore attached. In addition, the following types of quenched nucleotides are available as a custom synthesis from Jenabioscience: (i) Fluorophore-5-Aminopropargyl-ddCTP-gammaxylamino-quencher; (ii) Fluorophore-5-Aminoallyl-ddUTP-gammaxylamino-quencher; (ii) — (iii) fluorophore-7-Aminopropargyl-7-Deaza-ddATP-gammaxylamino-quencher; (iv) fluorophore-7-Aminopropargyl-7-Deaza-ddGTP-gammaxylamino-quencher.

Please replace the paragraph found on page 66, lines 1-2 of the specification with the following paragraph:

Figure 4 is Figures 4A and 4B show a schematic of a single stepwise sequencing cycle, using the NH₂-ddNTP system (Figure 4A) and the alpha-s-ddNTP system (Figure 4B).

Please replace the paragraphs found on page 66, lines 18-25 of the specification with the following paragraph:

~~Figure 7 illustrates~~ Figures 7A and 7B illustrate the sequencing by ligation scheme in the 5'-3' direction. Sequencing by ligation can also be implemented in the 3'-5' direction by using 5' ~~phosphorylated~~ phosphorylated free ends on the array and a ligating oligonucleotide bearing a ribonucleotide cleavage system.

~~Figure 8 shows~~ Figures 8A and 8B show the cleavage reaction of a PN oligonucleotide that has been ligated to a primer (Figure 8A) and the cleavage reaction of a ribonucleotide containing oligo that has been ligated to a primer (Figure 8B).